

1 1. An XDSL system comprising:
2 a hybrid circuit in operative communication with a
3 transmission line and an XDSL modem associated with a subscriber
4 premises, said hybrid circuit comprising a plurality of selectable impedance
5 circuits; and
6 a switch for connecting each of said plurality of selectable
7 impedance circuits in-line with said XDSL modem and said transmission
8 line in response to a control signal.

2. The XDSL system of claim 1 further comprising a controller for producing said control signal as a function of a performance characteristic associated with each of said impedance circuits.

1 3. The XDSL system of claim 1 wherein the plurality of
2 selectable impedance circuits equals four.

4. The XDSL system of claim 1 wherein one of said plurality of impedance circuits has an impedance value equal to a characteristic line impedance of said transmission line without a bridged tap.

1 5. The XDSL system of claim 4 wherein one of said
2 plurality of impedance circuits has an impedance value equal to a
3 characteristic line impedance with a bridged tap.

1 6. The XDSL system of claim 2 wherein said performance
2 characteristic is a data transmission rate and said control signal
3 corresponds to the respective impedance circuit associated with the highest

4 data transmission rate value.

1 7. A method of configuring an XDSL system comprising:
2 providing a hybrid circuit in-line with a transmission line and
3 an XDSL modem associated with a subscriber premises, said hybrid circuit
4 comprising a plurality of selectable impedance circuits; and
5 engaging one of said plurality of selectable impedance
6 circuits in-line with said transmission line and said XDSL modem in
7 response to a control signal.

1 8. The method of claim 7 wherein the step of engaging
2 includes the step of engaging seriatimly each of said plurality of impedance
3 circuits in-line with said transmission line and said XDSL modem.

1 9. The method of claim 8 further comprising the step of
2 determining a performance characteristic of said XDSL system for each of
3 said plurality of impedance circuits when engaged, and outputting said
4 control signal as a function of each of said performance characteristics.

1 10. The method of claim 9 wherein said performance
2 characteristic is a data transmission rate and said control signal
3 corresponds to the respective impedance circuit associated with the highest
4 data rate.

1 11. The method of claim 9 wherein said performance
2 characteristic is a data transmission rate and said control signal
3 corresponds to a first respective impedance circuit associated with a data
4 rate greater than a selected rate.

1 12. The method of claim 9 wherein the step of outputting
2 includes the step of comparing each of said performance characteristics
3 associated with each respective impedance circuit.

1 13. The method of claim 7 wherein one of said plurality of
2 impedance values is equal to a characteristic line impedance of said
3 transmission line without a bridged tap.

1 14. The method of claim 13 wherein one of said plurality
2 of impedance values is equal to a characteristic line impedance with a
3 bridged tap.

1 15. An XDSL system comprising:
2 a hybrid circuit in operative communication with a
3 transmission line and an XDSL modem associated with a subscriber
4 premises, said hybrid circuit comprising a plurality of selectable impedance
5 circuits;

6 a switch for connecting each of said plurality of selectable
7 impedance circuits in-line with said XDSL modem and said transmission
8 line in response to a control signal; and

9 a controller programmed to determine a performance
10 characteristic associated with each of said plurality of selectable impedance
11 circuits when connected, and output said control signal as a function of
12 said performance characteristics associated with each of said impedance
13 circuits.

1 16. The XDSL system of claim 15 wherein the number of
2 impedance circuits is four.

1 17. The XDSL system of claim 15 wherein said
2 performance characteristic is a transmission data rate.

1 18. The XDSL system of claim 15 wherein said
2 performance characteristic is a transmission line attenuation.

1 19. The XDSL system of claim 15 wherein said
2 performance characteristic is a noise margin.

1 20. The XDSL system of claim 15 wherein one of the
2 plurality of impedance circuits comprises a 460 ohm resistor in parallel
3 with a 1200 ohm resistor and 520 pF capacitor.